



PEDIATRIC SUMMARY REPORT, 2014

EMS & TRAUMA REGISTRIES

Texas Department of State Health Services
Injury Epidemiology & Surveillance Branch

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Page 10: Map created by Kacie Seil, MPH, Texas DSHS Injury Epidemiology & Surveillance Branch
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UNDERSTANDING THIS REPORT

The databases used for the purposes of this document are the Texas EMS & Trauma Registries (ETR), which collects information on all EMS runs and trauma hospitalization discharges. The pediatric data presented here are for 2014. Pediatric, as used in this report, refers to individuals less than 18 years of age.

Texas Administrative Code §103.1 – §103.8 requires the collection of reportable event data from EMS providers, physicians, medical examiners, justices of the peace, hospitals, and acute or post-acute rehabilitation facilities. The ETR is a statewide passive surveillance system collecting these data.

EMS Runs – Texas is home to one of the largest EMS registries in the United States with more than 2.6 million EMS runs received annually. EMS providers are required to report all runs. A run is a resulting action from a call for assistance where an EMS provider is dispatched to, responds to, provides care to, or transports a person. This includes trauma and medical, emergency and non-emergency, transport and non-transport runs.

Trauma Hospitalizations – Trauma hospitalization case inclusion criteria include:

A spinal cord injury, ICD-9-CM diagnosis codes 806.0-806.9 and 952.0-952.9; *OR*

A traumatic brain injury, ICD-9-CM diagnosis codes 348.1, 800.0-801.9, 803.0-804.9, 850.0-854.1, and 994.1; *OR*

Another traumatic injury, ICD-9-CM diagnosis codes 800-959.9 excluding 905-909, 910-924, and 930-939, AND at least one of the following:

- Admitted to a hospital inpatient setting (for more than 48 hours),
- Died after receiving any evaluation or treatment or was dead on arrival, *OR*
- Transferred into or out of the hospital.

It is important to recognize there is not a 1:1 correlation between reported trauma hospitalizations and patients. For example, a patient treated at more than one hospital for a single injury event may generate more than one record in the database.

When the numbers of cases (or deaths) were less than 5 for any reported category or table cell, they were suppressed to preserve privacy. Suppressed values appear in the tables on pages 11, 15, and 19. Because totals were included in the table on page 15, it was also necessary to suppress other cells in the table to prevent determination of the unacceptable cell figure through subtraction.

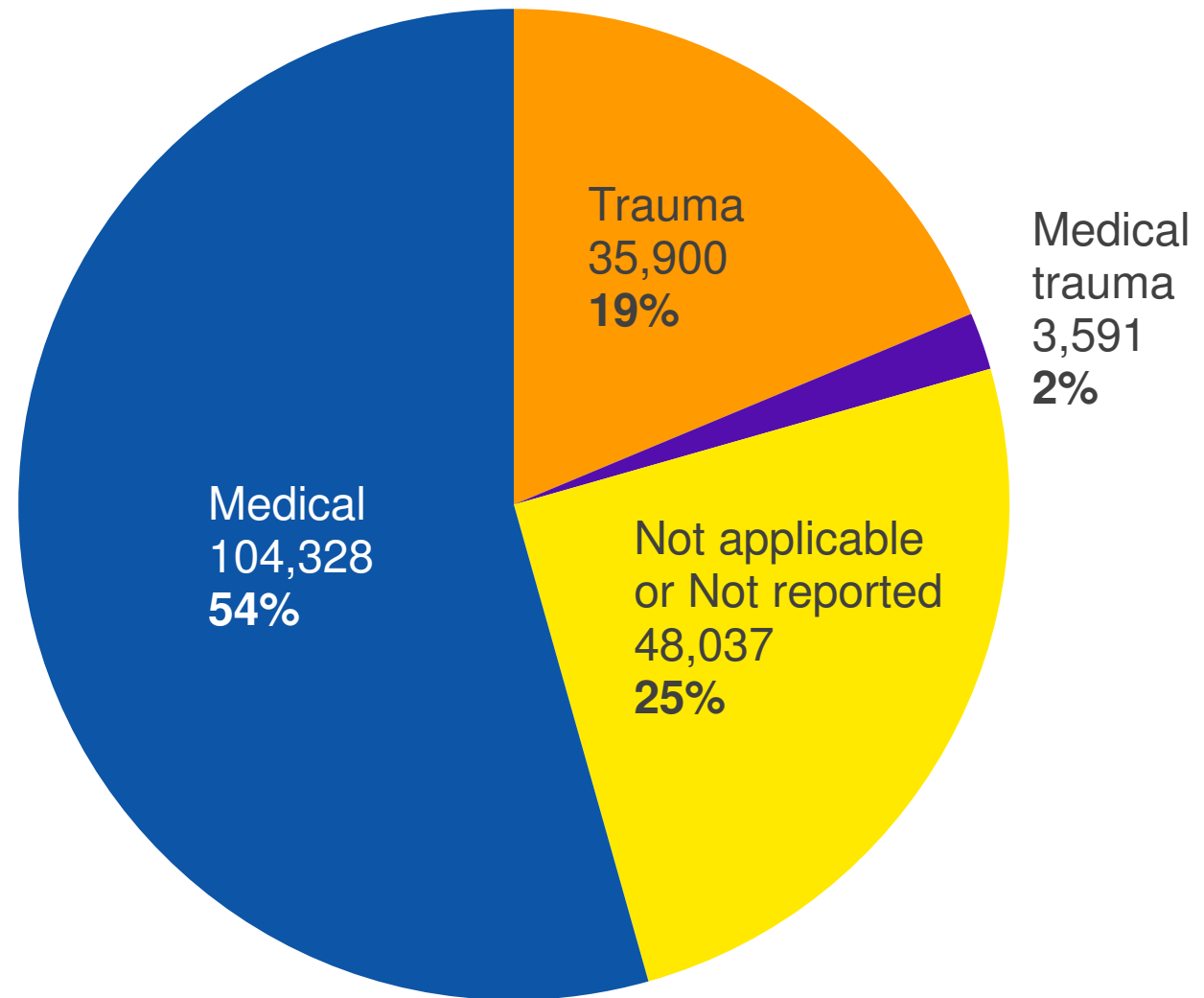
PEDIATRIC EMS RUNS • TEXAS, 2014



PEDIATRIC EMS RUNS • TEXAS, 2014

CALL TYPE

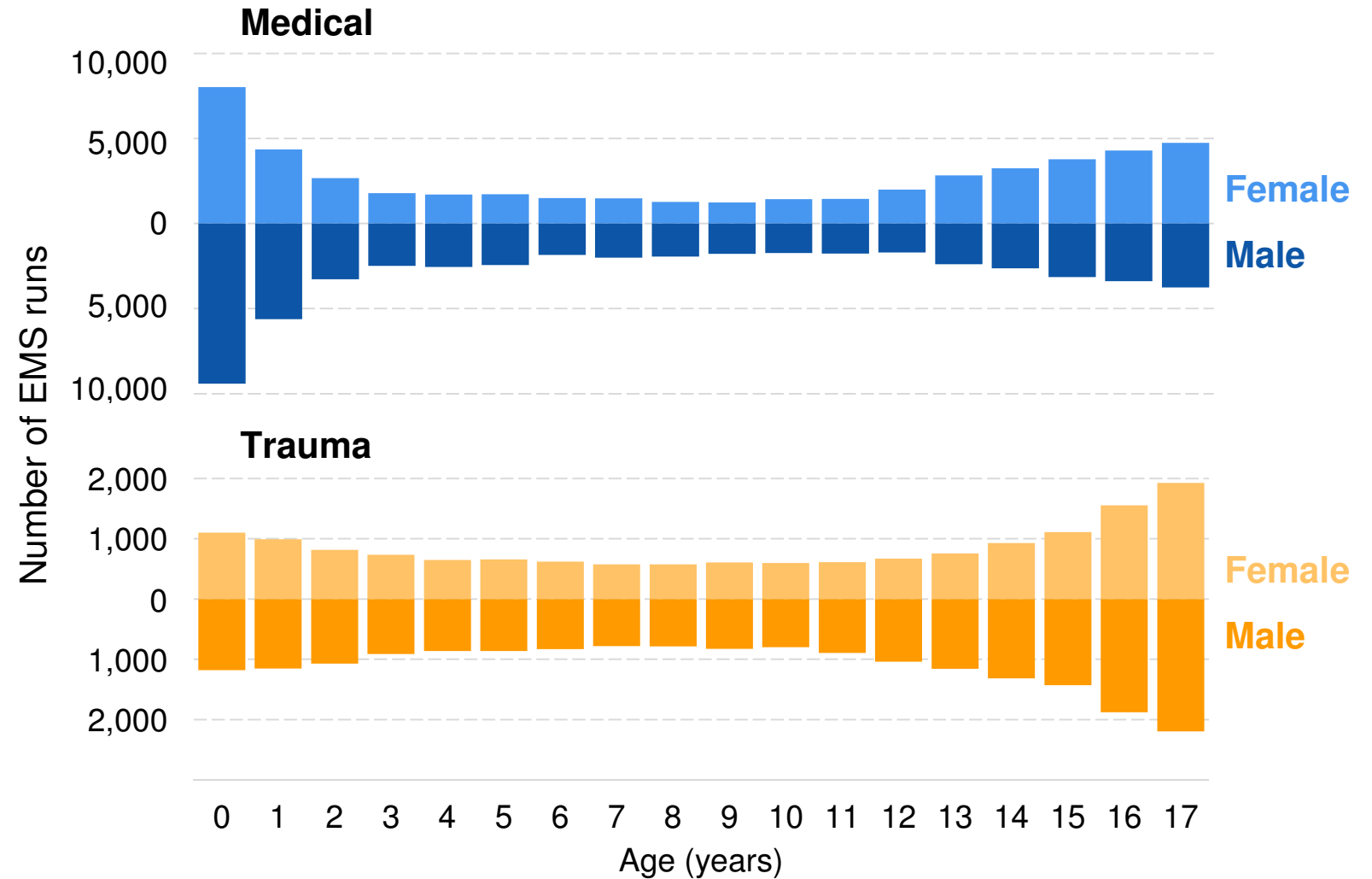
There were 191,971 pediatric EMS runs in 2014, accounting for 7.9% of all EMS runs in Texas for the year. More than half the EMS runs were medical-related, while nearly one-fifth were trauma-related.



PEDIATRIC EMS RUNS • TEXAS, 2014

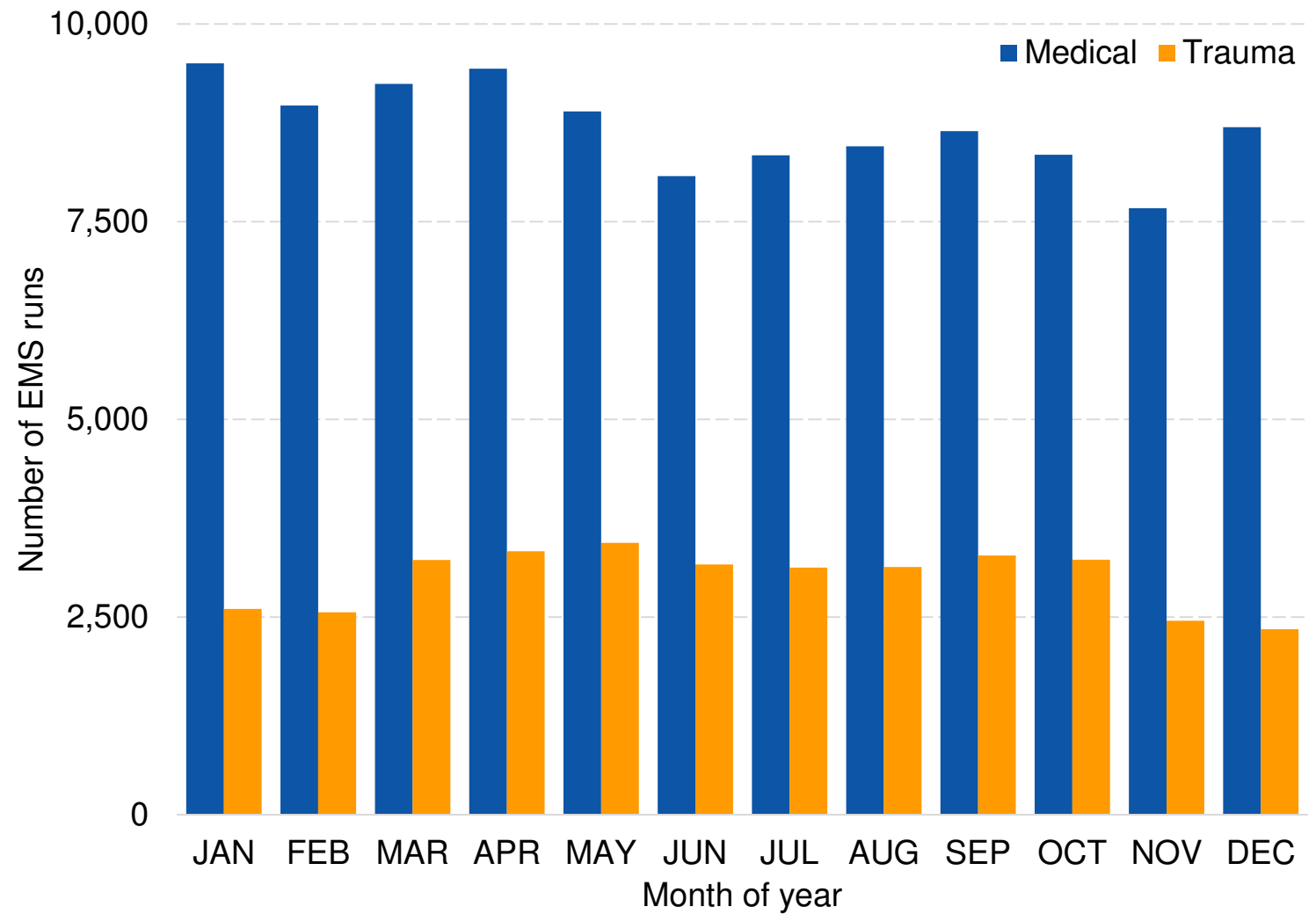
AGE AND SEX

Over half (52%) of EMS runs were males, compared to 46% for females (1% unknown). The Texas mid-year population for individuals under age 18 years in 2014 was 51% male and 49% female. At most ages, males have more medical and trauma EMS runs. However, for ages 12-17 years, females had more medical EMS runs than males. While both the medical and trauma distributions are dumb-bell shaped, medical runs are most common for infants and young children, while trauma runs are most common among teens.



PEDIATRIC EMS RUNS • TEXAS, 2014 MONTH OF YEAR

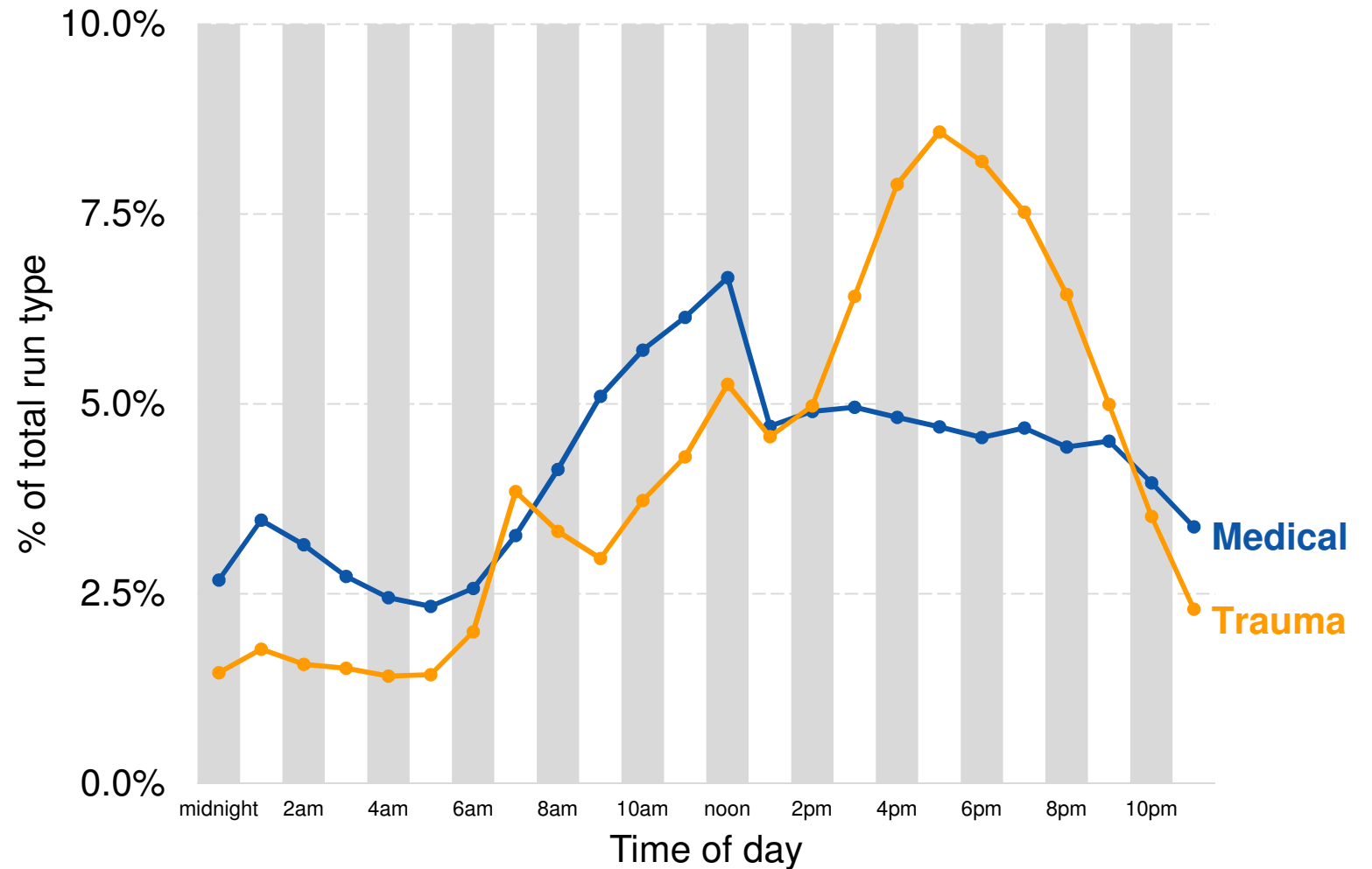
There were fewer pediatric trauma EMS runs in the winter months. In contrast, the number of pediatric medical EMS runs varied from month to month but did not have a clear seasonal pattern.



PEDIATRIC EMS RUNS • TEXAS, 2014

TIME OF DAY

Medical runs are most common in the late morning and peak in the noon hour. In contrast, trauma runs are most common in the late afternoon and early evening hours with a peak during the 5:00 p.m. hour.



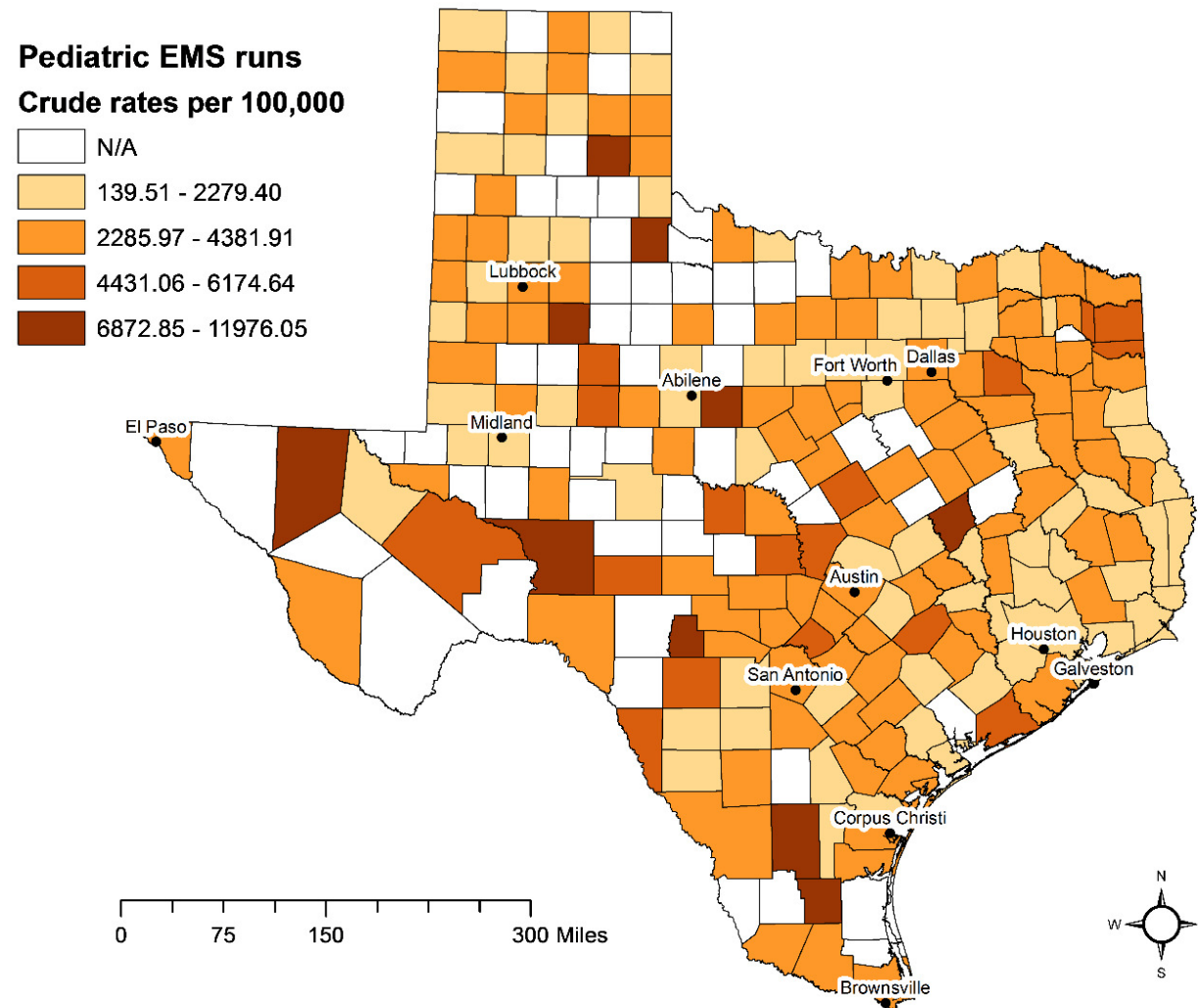
In 2014, the statewide crude rate of pediatric EMS runs was 2,729 runs per 100,000 population. Of the 13 Texas counties with the largest pediatric populations (>100,000), only Hidalgo and Travis counties had a crude rate above the statewide value.

Incident County	Population under 18 years of age	No. of EMS runs	Crude rate of EMS runs (per 100,000)
Harris	1,205,210	13,462	1,117
Dallas	676,575	17,748	2,623
Tarrant	526,956	6,427	1,220
Bexar	485,751	13,024	2,681
Hidalgo	279,329	8,024	2,873
Travis	265,211	8,098	3,053
Collin	240,553	4,364	1,814
El Paso	235,582	6,362	2,701
Denton	196,521	3,222	1,640
Fort Bend	191,190	2,330	1,219
Montgomery	138,889	1,075	774
Cameron	132,864	3,566	2,684
Williamson	132,752	2,387	1,798

PEDIATRIC EMS RUNS • TEXAS, 2014

COUNTY OF INCIDENCE

Among counties with at least 20 pediatric EMS runs in 2014, the crude rates of pediatric EMS runs varied from 140 per 100,000 in Parker County to 11,976 per 100,000 in Callahan County. Rates were not calculated for counties with 20 or fewer pediatric EMS runs reported in 2014.



Cause of injury	Intent				
	Unintentional	Self-inflicted	Assault	Undetermined	Other
Motor vehicle traffic	10,686	0	0	0	0
Fall	7,521	*	0	830	*
Other	1,239	267	508	137	*
Not specified	765	66	804	196	89
Struck by/against	1,027	*	581	0	11

**Counts have been suppressed.*

A total of 29,537 pediatric EMS runs had external cause of injury codes, making it possible to classify by cause and intent. The most common cause of injury among pediatric EMS runs was motor vehicle traffic (36%), followed by falls (27%). Among EMS runs

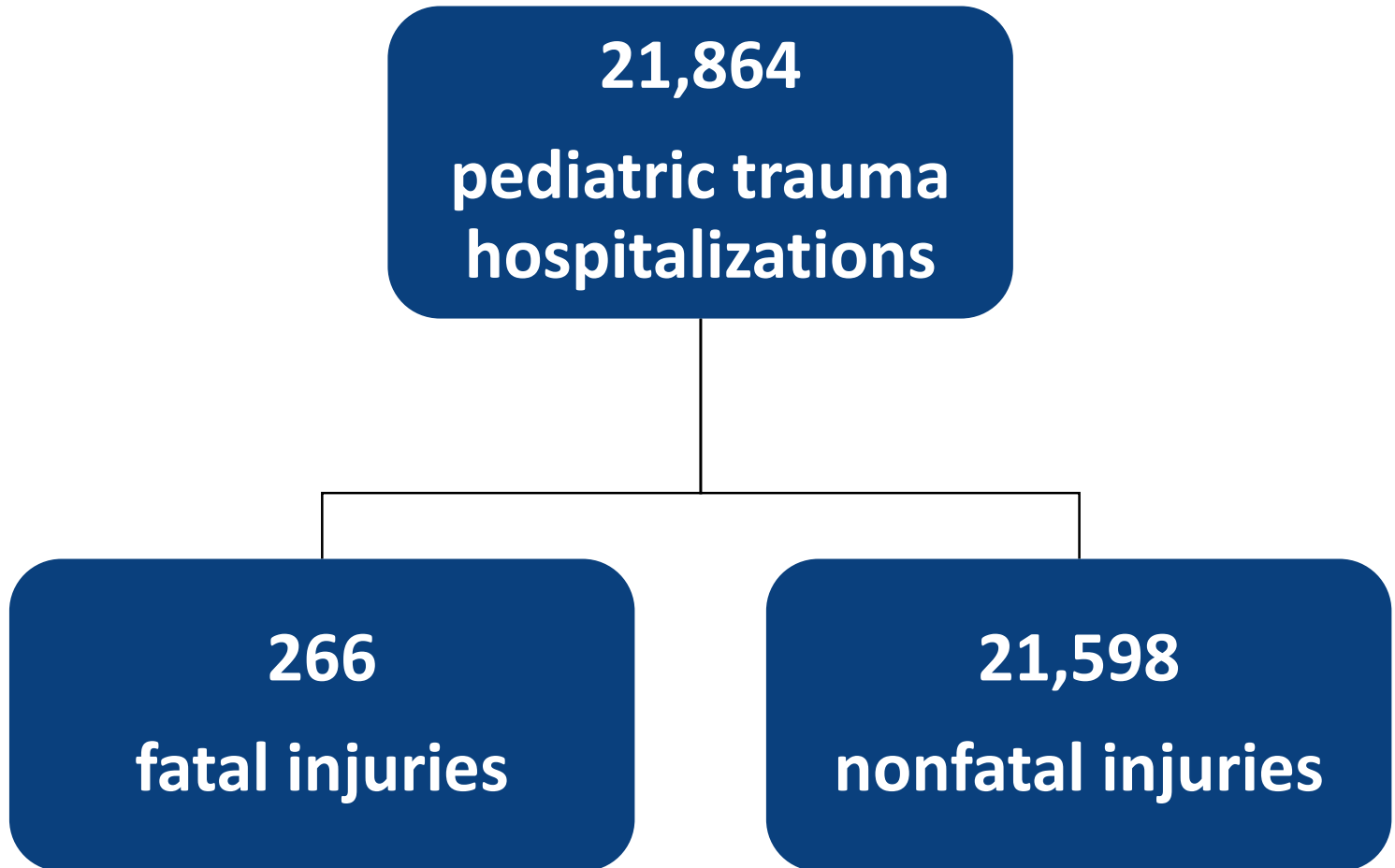
with cause and intent information, the top five causes of injury accounted for 83% of pediatric EMS runs, and 83% of all pediatric EMS runs were for unintentional injuries.

PEDIATRIC TRAUMA HOSPITALIZATIONS • TEXAS, 2014



PEDIATRIC TRAUMA HOSPITALIZATIONS • TEXAS, 2014 SUMMARY

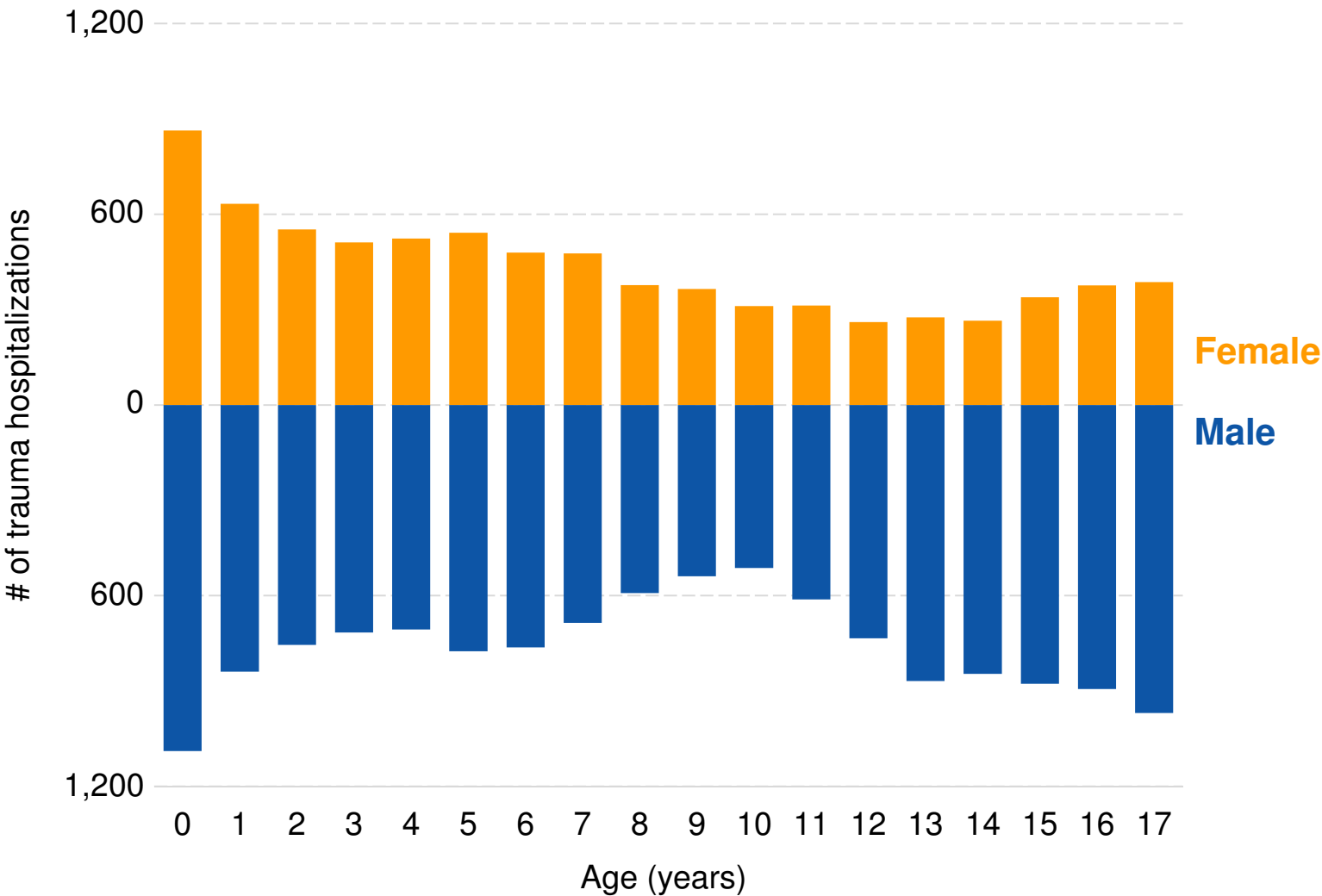
There were 21,864 pediatric trauma hospitalization in Texas in 2014. 1.2% of reported pediatric trauma hospitalizations involved fatal injuries.



PEDIATRIC TRAUMA HOSPITALIZATIONS • TEXAS, 2014

AGE AND SEX

Nearly 64% of children hospitalized for traumatic injuries were male. Trauma hospitalizations were greater in number for males in every age group. For both sexes, the largest number of trauma hospitalizations were for children <1 year of age. The fewest number of trauma hospitalizations occurred among 10-year-old males and 12-year-old females.



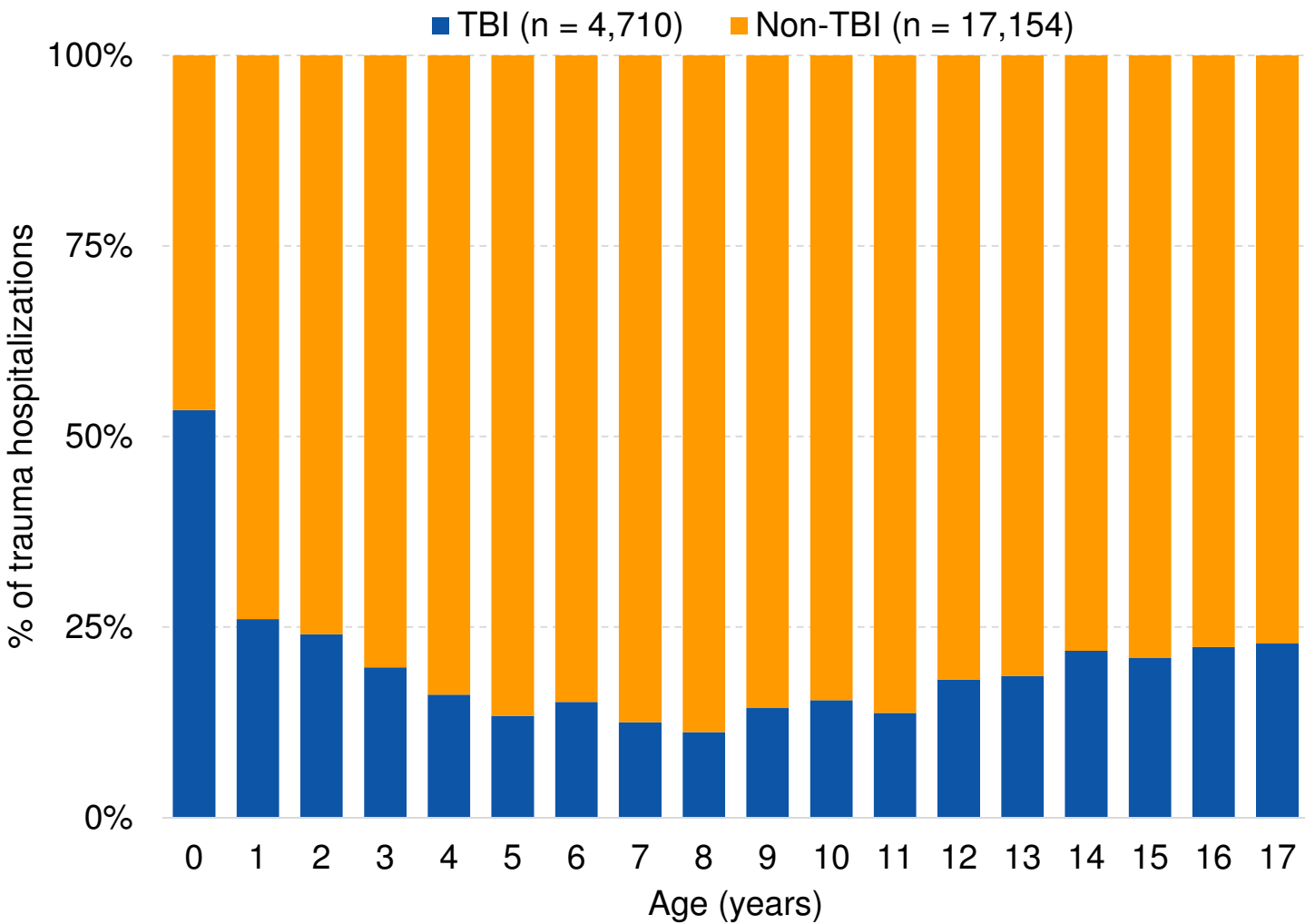
	Injury severity score					
Injury diagnosis by outcome	1-9	10-15	16-24	25-75	Missing	Total
Fatal injuries						
Traumatic brain injury (TBI)	18	9	12	101	4	144
Spinal cord injury (SCI)	*	*	0	6	0	8
TBI + SCI	0	0	0	7	0	7
Other traumatic injuries	52	*	*	28	14	107
Nonfatal injuries						
TBI	2,633	533	795	319	249	4,529
SCI	26	*	9	15	*	58
TBI + SCI	8	*	*	14	*	30
Other	13,906	651	334	161	1,929	16,981
Total, all diagnoses	16,644	1,208	1,163	651	2,198	21,864

**Counts have been suppressed.*

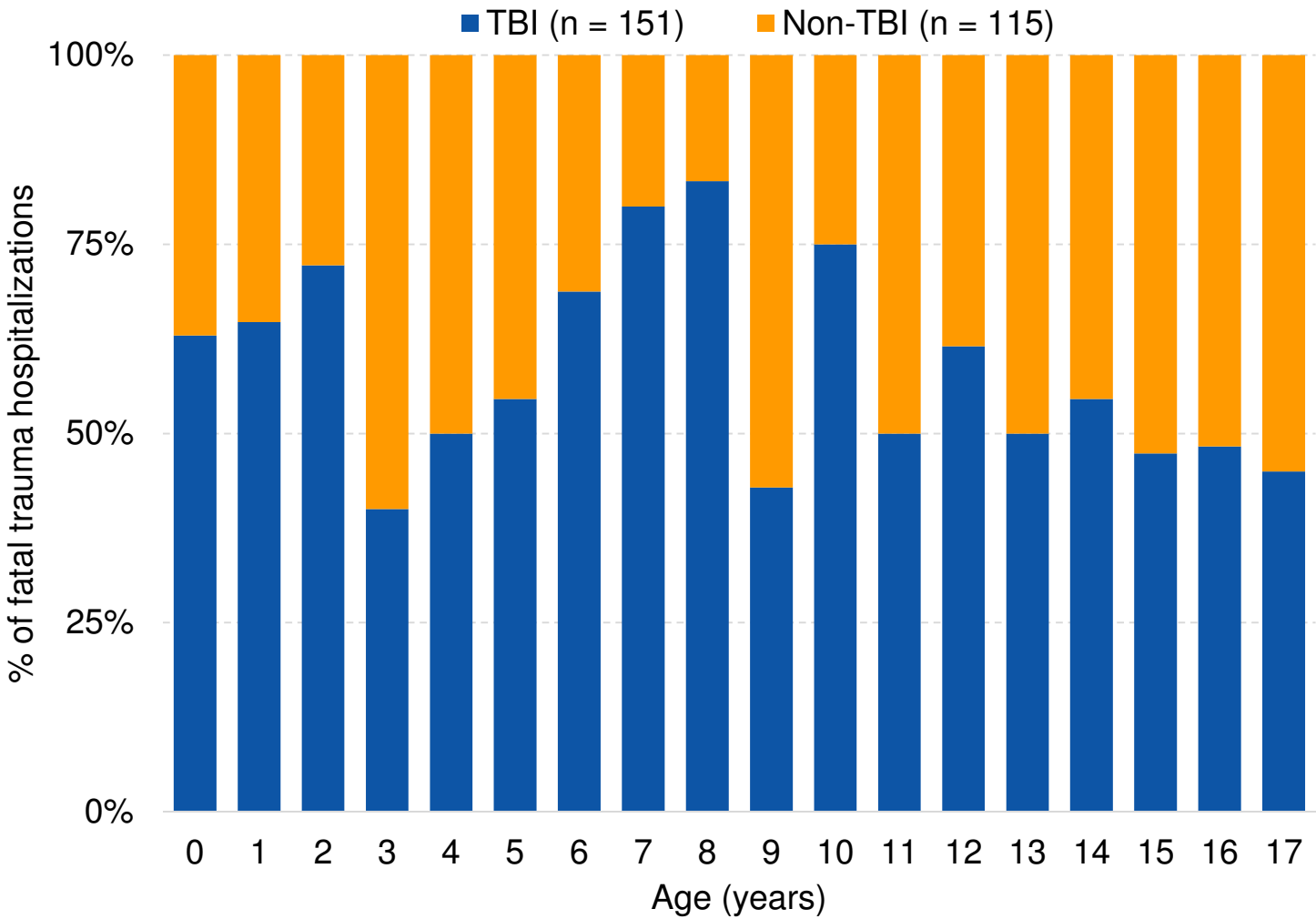
(*Preceding page*) 4,710 pediatric trauma hospitalizations involved a traumatic brain injury, alone (n = 4,673) or with a spinal cord injury (n = 37), comprising 22% of all pediatric trauma hospitalizations. Among fatal trauma hospitalizations, 57% involved a diagnosis of TBI. The injury severity score (ISS) is a composite variable used to assess the overall severity of traumatic injuries by accounting for injuries occurring in different body regions. An ISS of greater than 15 indicates major trauma, and a score above 24 indicates critical injury. Of pediatric trauma hospitalizations with an ISS score of 16-24, 2% were fatal injuries. For those with an ISS score of >24, 24% of were fatal injuries. Less than 1% of trauma hospitalizations with ISS scores <15 were fatal injuries.



Traumatic brain injuries are most common among children <1 year of age, after which they generally decreased until the teen years, when the number generally increasing with age.



Despite being diagnosed in only 22% of pediatric traumatic injury hospitalizations, a diagnosis of traumatic brain injury was present in 57% of fatal injuries.



PEDIATRIC TRAUMA HOSPITALIZATIONS • TEXAS, 2014 TOP FIVE CAUSES BY INTENT

Cause of injury	Intent				
	Unintentional	Self-inflicted	Assault	Undetermined	Other
Fall	8,917	6	*	11	*
Motor vehicle traffic	3,574	*	*	0	0
Struck by/against	2,266	*	183	0	*
Other transport	1,304	0	0	0	0
Fire/burn	1,149	*	*	12	0

**Counts have been suppressed.*

There were 21,277 trauma hospitalizations with external cause of injury codes, making it possible to classify injuries by cause and intent. Of these, the most common cause of injury among pediatric trauma hospitalizations was falls (42%), followed by motor vehicle traffic (17%).

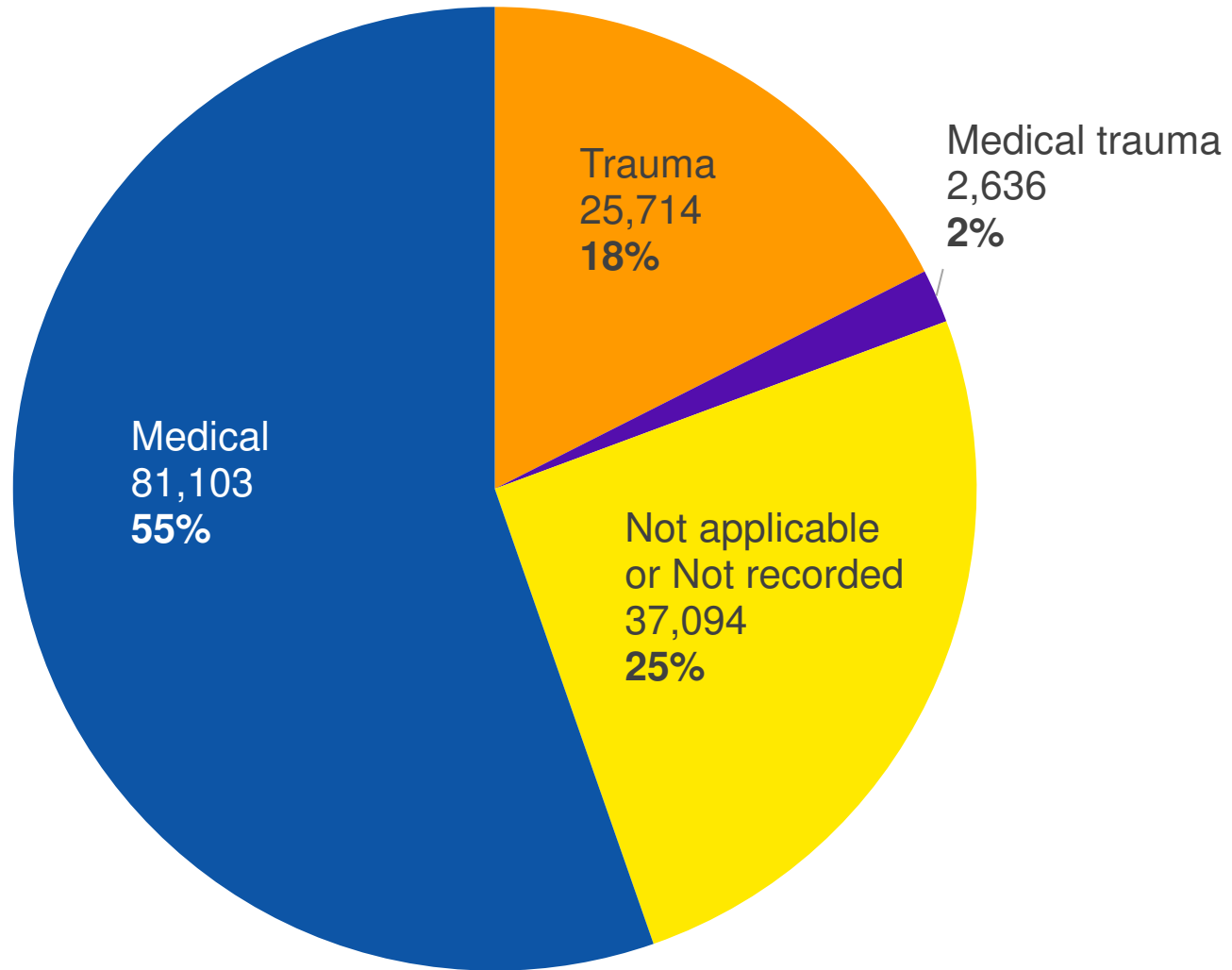
The top five causes of injury, which were the same as those in 2013, accounted for 82% of pediatric trauma hospitalizations with identified causes and intents. Almost all (95%) pediatric traumatic injuries were unintentional. Major causes of intentional injuries included firearms, suffocation, and cuts.

PEDIATRIC REPORT ADDENDUM, 0–14 YEARS • TEXAS, 2014

PEDIATRIC EMS RUNS, 0-14 YEARS • TEXAS, 2014

CALL TYPE

There were 146,640 EMS runs for children 0-14 years old in 2014. More than half the EMS runs were medical-related, while 18% were trauma-related.



Cause of injury	Intent				
	Unintentional	Self-inflicted	Assault	Other	Undetermined
Motor vehicle traffic	6,858	0	0	0	0
Falls	6,100	*	0	0	728
Natural/environmental	1,228	0	0	0	0
Struck by/against	733	0	272	5	0
Cut/pierce	277	58	45	0	73
All other injuries**	2,526	448	713	88	649

*Counts have been suppressed.

** Other Specified, Not Elsewhere Classified, and Not Specified were included in All other injuries, regardless of counts.

Cause of injury	Intent				
	Unintentional	Self-inflicted	Assault	Other	Undetermined
Falls	2860	0	0	0	360
Motor vehicle traffic	2178	0	0	0	0
Natural/environmental	349	0	0	0	0
Struck by/against	254	0	50	*	0
Fire/burn	111	0	*	0	134
All other injuries**	826	144	139	27	227

*Counts have been suppressed.

** Other Specified, Not Elsewhere Classified, and Not Specified were included in All other injuries, regardless of counts.

The <1 year and 1-4 years age groups had the same top five causes of injury.

PEDIATRIC EMS RUNS, 5-14 YEARS • TEXAS, 2014

TOP FIVE CAUSES BY INTENT

Cause of injury	Intent				
	Unintentional	Self-inflicted	Assault	Other	Undetermined
Motor vehicle traffic	4,680	0	0	0	0
Falls	3,240	*	0	0	368
Natural/environmental	879	0	0	0	0
Struck by/against	479	0	222	*	0
Cut/pierce	189	52	43	0	48
All other injuries**	1,677	310	574	61	313

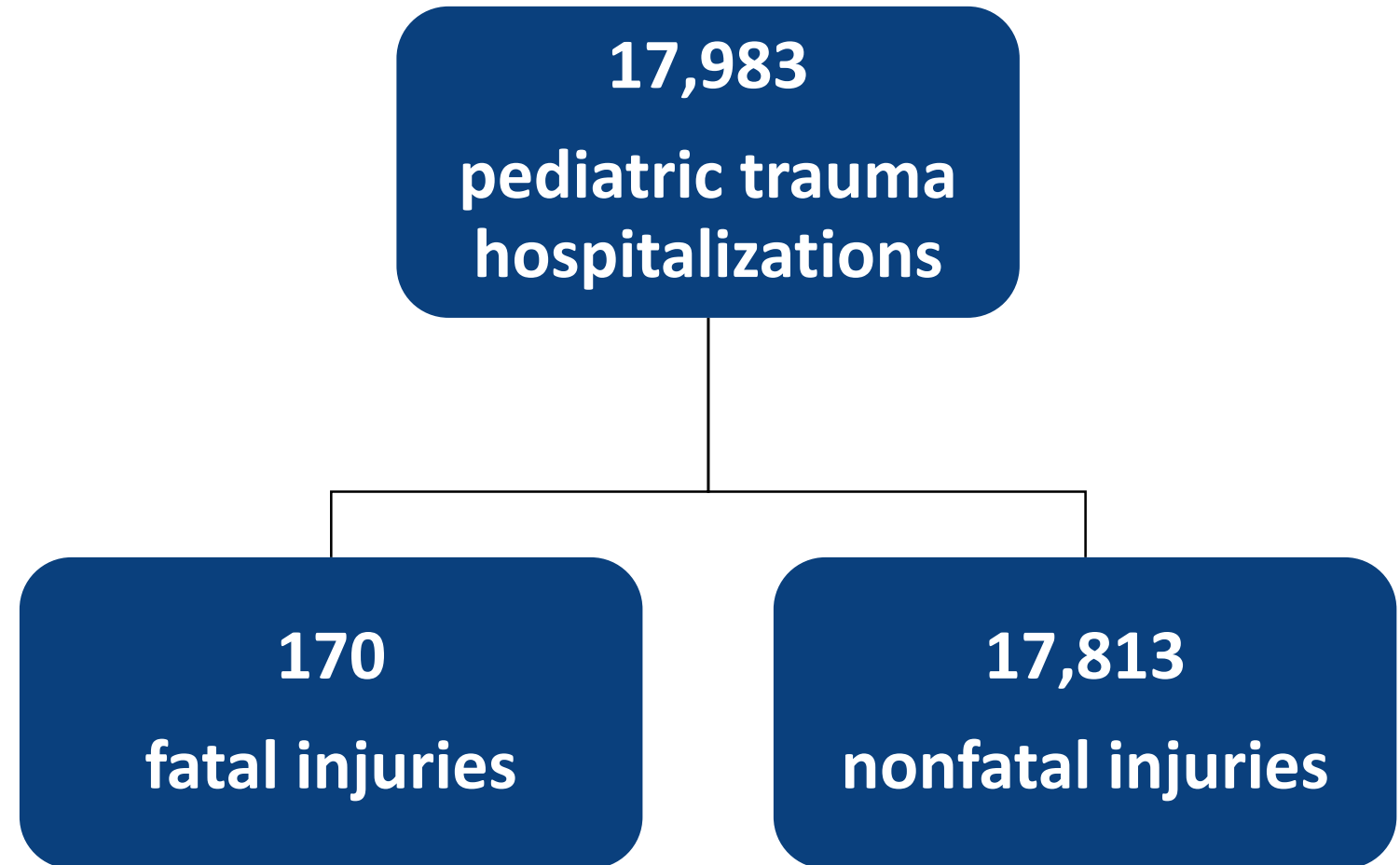
**Counts have been suppressed.*

*** Other Specified, Not Elsewhere Classified, and Not Specified were included in All other injuries, regardless of counts.*

The 5-9 years and 10-14 years age groups had the same top five causes of injury.

PEDIATRIC TRAUMA HOSPITALIZATIONS, 0-14 YEARS • TEXAS, 2014 SUMMARY

There were 17,983 trauma hospitalizations of children 0-14 years old in Texas during 2014. Less than 1% of these reported trauma hospitalizations involved fatal injuries.



Injury diagnosis by outcome	Injury severity score				
	1-9	10-15	16-24	25-75	Missing
Fatal injuries					
Traumatic brain injury (TBI)	16	7	9	76	*
Spinal cord injury (SCI)	*	0	0	*	0
TBI + SCI	0	0	0	7	0
Other traumatic injuries	40	*	6	13	13
Nonfatal injuries					
TBI	2,219	417	646	236	200
SCI	10	*	*	5	*
TBI + SCI	*	*	*	10	*
Other traumatic injuries	11,655	447	210	93	1,625

**Counts have been suppressed.*

Cause of injury	Intent				
	Unintentional	Self-inflicted	Assault	Other	Undetermined
Falls	8,239	*	*	0	8
Motor vehicle traffic	2,391	0	0	0	0
Struck by/against	1,708	0	68	0	0
Fire/burn	1,056	*	*	0	12
Other transport	910	0	0	0	0
All other injuries**	2,496	46	474	*	649

*Counts have been suppressed.

** Other Specified, Not Elsewhere Classified, and Not Specified were included in All other injuries, regardless of counts.

PEDIATRIC TRAUMA HOSPITALIZATIONS, <1 YEAR • TEXAS, 2014 TOP FIVE CAUSES BY INTENT

Cause of injury	Intent				
	Unintentional	Self-inflicted	Assault	Other	Undetermined
Falls	1,075	0	0	0	*
Motor vehicle traffic	156	0	0	0	0
Fire/burn	127	0	0	0	*
Struck by/against	68	0	*	0	0
Natural/environmental	20	0	0	0	0
All other injuries**	165	*	248	*	43

*Counts have been suppressed.

** Other Specified, Not Elsewhere Classified, and Not Specified were included in All other injuries, regardless of counts.

Cause of injury	Intent				
	Unintentional	Self-inflicted	Assault	Other	Undetermined
Falls	2,570	0	*	0	*
Fire/burn	613	*	0	0	9
Motor vehicle traffic	612	0	0	0	0
Struck by/against	371	0	6	0	0
Natural/environmental	288	0	0	0	0
All other injuries**	566	*	121	0	22

*Counts have been suppressed.

** Other Specified, Not Elsewhere Classified, and Not Specified were included in All other injuries, regardless of counts.

Cause of injury	Intent				
	Unintentional	Self-inflicted	Assault	Other	Undetermined
Falls	2,863	0	0	0	*
Motor vehicle traffic	827	0	0	0	0
Struck by/against	478	0	*	0	0
Other transport	280	0	0	0	0
Natural/environmental	223	0	0	0	0
All other injuries**	779	7	44	0	9

*Counts have been suppressed.

** Other Specified, Not Elsewhere Classified, and Not Specified were included in All other injuries, regardless of counts.

Cause of injury	Intent				
	Unintentional	Self-inflicted	Assault	Other	Undetermined
Falls	1,731	*	*	0	*
Motor vehicle traffic	796	0	0	0	0
Struck by/against	791	0	54	0	0
Other transport	530	0	0	0	0
Pedal cyclist	206	0	0	0	0
All other injuries**	665	36	64	0	14

*Counts have been suppressed.

** Other Specified, Not Elsewhere Classified, and Not Specified were included in All other injuries, regardless of counts.